

## REMARKS

Independent claims 1, 7, 12, 15, and 21 are amended to further clarify the invention (example embodiments are described on p. 7, l. 21 – p. 9, l. 13 of the specification), and claims 3, 8, 17, and 22 are canceled. Claims 4, 9, 18, and 23 are amended for consistency with the amended base claims. Claims 1-2, 4-7, 9-16, 18-21, and 23-25 remain, and reconsideration and allowance of the application are respectfully requested.

The Office Action fails to establish that claims 12-14 are unpatentable under 35 USC §101 as claiming non-statutory subject matter. The rejection is respectfully traversed because the Office Action does not establish a *prima facie* case that the invention as a whole is directed solely to an abstract idea or to manipulation of abstract ideas or does not produce a useful result. The MPEP at §2106 II. A. provides the following guidance:

- Although the courts have yet to define the terms useful, concrete, and tangible in the context of the practical application requirement for purposes of these guidelines, the following examples illustrate claimed inventions that have a practical application because they produce useful, concrete, and tangible result:

- Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held to be directed to patentable subject matter because “the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle.” *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999);

- “[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’ -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601; and

- Claims drawn to a rasterizer for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means were held to be directed to patentable subject matter since the claims defined “a specific machine to produce a useful, concrete, and tangible result.” *In re Alappat*, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994).

A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31

USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459. Office personnel have the burden to establish a *prima facie* case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101. Compare *Musgrave*, 431 F.2d at 893, 167 USPQ at 289; *In re Foster*, 438 F.2d 1011, 1013, 169 USPQ 99, 101 (CCPA 1971). Further, when such a rejection is made, Office personnel must expressly state how the language of the claims has been interpreted to support the rejection.

Based on the direction provided by the MPEP, the Office Action fails to present any evidence to show that the apparatus claims 12-14 do not produce a useful, concrete, and tangible result. The claims specifically recite means for performing various functions, and the specification clearly sets forth example apparatus for performing the functions (FIG. 3 and page 26, lines 13-17). Thus, the Office Action fails to establish a *prima facie* case showing that claims 12-14 are directed to abstract ideas. Based on the specific embodiments and the utilities of the invention disclosed in the complete specification, claims 12-14 are thought to be directed to statutory subject matter.

The Office Action fails to show that claims 1-2, 7, 12-16 and 21 are anticipated by US patent pub. 2002/0194251 to Richter et al. ("Richter") under 35 USC §102(e). The rejection is respectfully traversed because the Office Action fails to show that all the limitations of the claims are taught by Richter. However, the rejection is now moot in view of the amendments to the claims. Therefore, the rejection of claims 1-2, 7, 12-16, and 21 should be withdrawn.

The Office Action fails to establish that claims 3-4, 8-9, 17-18, and 22-23 are unpatentable under 35 USC §103(a) over Richter in view of "AAPA" (Applicant's admitted prior art in the background of the application, p.2). The rejection is respectfully traversed because the Office Action fails to show that all the limitations are suggested by the references and fails to provide a proper motivation for modifying the teachings of Richter with teachings of AAPA.

There is no apparent suggestion by Richter or AAPA of determining the total number of servers required in each of the tiers, nor is there any apparent suggestion by Richter or AAPA of any particular approach for determining the numbers of servers to be in each of the tiers. For example, the claim limitations set forth that respective

average response times are determined for each of the tiers based on a number of servers in the tier, arrival rate of work requests, and an average utilization rate of the critical resource of a server.

The Office Action cites Ritcher's paragraphs [0123], [0169], [0223], [0248], and [0268] as suggesting these limitations. However, the cited teachings make no mention of respective average response times of each of the tiers, and the respective average response times being a function of the number of servers in the tier, the arrival rate or work requests, and an average utilization rate of the critical resource. Furthermore, none of the cited paragraphs contain any apparent mention of using the average response times of the tiers to determine a total average response time. This particular manner of determining the a minimum total number of servers required in each tier for the total average response time of the application to satisfy the service level metric is not understood to be suggested by the cited paragraphs. Therefore, the limitations are not shown to be suggested by the prior art.

The alleged motivation for combining AAPA with the teachings of Richter does not support a *prima facie* case of obviousness. The alleged motivation states that "it would have been obvious ... to combine the teachings ... [because it] would allow users of Richter's system to share incoming workload within each tier." There is no evidence that suggests the claimed approach for determining numbers of servers within the tiers. Even if Richter is combined with the AAPA, the combination does not embody the claimed approach for determining a number of servers for each of the tiers, nor is there is any suggestion of the claimed approach for determining the number of servers for each of the tiers. Therefore, the alleged motivation is improper.

The rejection of claims 3-4, 8-9, 17-18, and 22-23 over the Richter-AAPA combination should be withdrawn because a *prima facie* case of obviousness has not been established.

The Office Action does not establish that claims 5-6, 10-11, 19-20, and 24-25 are unpatentable under 35 USC §103(a) over the Richter-AAPA combination and further in view of "Ganesan" (US patent pub. 2004/0153376 to Ganesan et al.). The rejection is respectfully traversed because the Office Action fails to show that all the limitations are

suggested by the references and fails to provide a proper motivation for modifying the teachings of Richter with teachings of AAPA and Ganesan.

Claims 5-6, 10-11, 19-20, and 24-25 depend from the independent base claims 1, 7, 15, and 21, which as discussed above have limitations that are not shown to be suggested by the Richter-AAPA combination. Therefore, all the limitations of claims 5-6, 10-11, 19-20, and 24-25 are not shown to be suggested by the prior art for at least the reasons set forth above, and the rejection should be withdrawn.

Withdrawal of the rejections and reconsideration of the claims are respectfully requested in view of the remarks set forth above. No extension of time is believed to be necessary for consideration of this response. However, if an extension of time is required, please consider this a petition for a sufficient number of months for consideration of this response. If there are any additional fees in connection with this response, please charge Deposit Account No. 50-0996 (HPCO.127PA).

Respectfully submitted,

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